Calculus Ball Drop Activity

Using the bleachers on either side of the football field, design an experiment that will answer the following questions reliably:

1. How high is your dropping point?

2. After you have dropped the ball, what is the average velocity of the ball over the time interval?

3. What is the instantaneous velocity of the ball at each of the endpoints?

4. Is the ball falling faster at the end, when it is halfway down, or the same either time? Show the work that leads to your conclusion.

5. Given the height, calculate how long the ball should have taken to hit the ground.

6. How does your answer from number 5 compare to the actual times you got. Why is this?